Organisation of rural electrification: The case of Burkina Faso

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Organisation of rural electrification

The case of Burkina Faso

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Outline of Presentation

- The Burkina Faso context
- Organisation of rural electrification
- Role of cooperatives in grid and non grid connected systems
- Advantages and disadvantages of different solutions
- Lessons learnt

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Institutional framework

- Unbundling and privatisation of utility envisaged by law in 2001
- Rural electrification fund *(Fonds de Développement d'Electricité)* created in 2002.
- Utility responsible for overall transmission system and for extension of existing electrified areas
- Rural electrification fund responsible for new electrification schemes in rural areas
- Donor support to rural electrification fund to be in charge of implementation, loans and subsidies
- Private sector involvement entailed abandoning unified tarifs

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Status and predictions in 2007

- 63 localities were electrified by the utility (Sonabel).
- In 2002, 34 centres were launched to be electrified by the new electrification agency (FDE)
  - 12 were finalised in 2007
  - 23 under construction to be finalised in late 2008
- Prediction for 2012.
  - Electrification fund (FDE) 275,
  - Utility (Sonabel) 36

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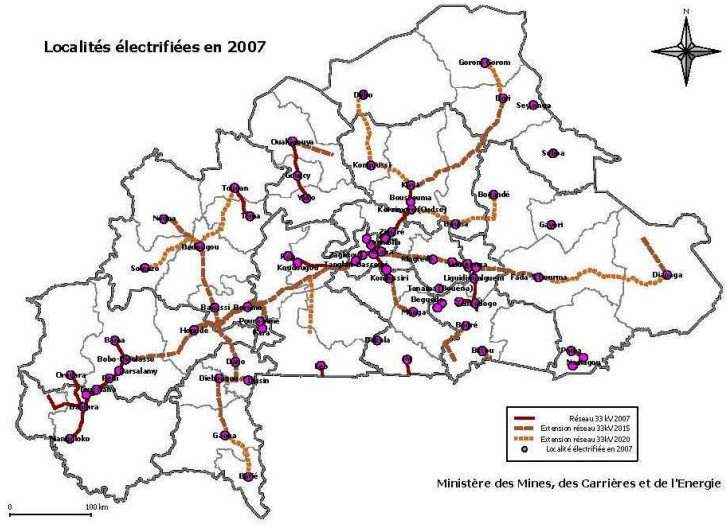

Source: Vision 2020 de l'accès aux services énergétiques modernes au Burkina Faso

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Overall organisational setup

Public sector

- Ministry of Energy
  - Overall planning
  - Concession
- Rural electrification fund (FDE)
  - Detailed planning
  - Implementation
  - Follow up
  - Subsidy
  - Loan

Private sector

- Local Consultants
  - Feasibility studies
    - on behalf of FDE
  - Tendering
    - on behalf of Coop
  - Training of cooperatives
- Cooperatives
  - Owners and (operators)
- Entrepreneurs
  - Builders and (operators)

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Two solutions for rural electrification

Stand alone

- Diesel unit
- Distribution grid
- Installations, meters

Grid connection

- Transmission line, SWER
- Transformer
- Distribution grid
- Installation, meters

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Stand alone systems

Cooperative

- Owner of the diesel unit, and the grid
  - 60 % subsidy from the rural electrification agency
  - 40 % loan, 3 year grace, 10 years pay back time
  - 1 % equity capital from members
- Responsible for
  - Fuel cost,
  - maintenance costs
  - Grid extension

Entrepreneur

- BO –agreement (tender)
  - Building the system
  - Operation & management, for 5 years included in the tender.
  - New contract after 5 years ?

Consumer

- Member fee (20 USD)
- Connection fee (payed back over 3 years)

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Grid connected systems

Cooperative

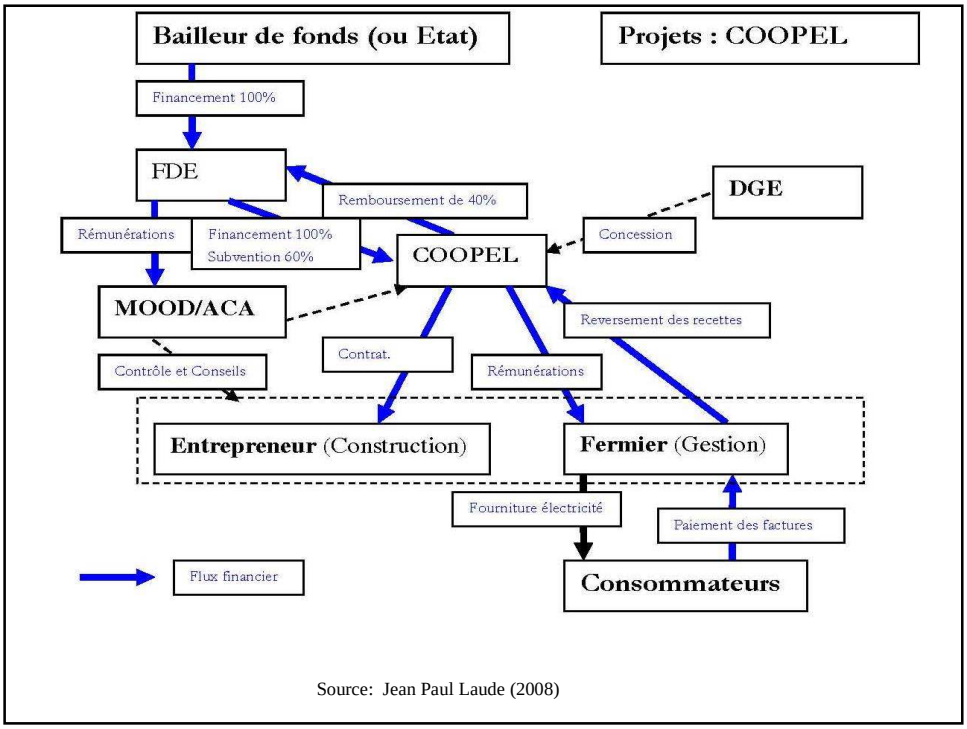
- Owner of transformer and distribution grid
  - Transmission line (100 % subsidy, owned by utility)
  - 60 % subsidy from the rural electrification agency
  - 40 % loan, 3 year grace, 10 years pay back time
  - 1 % equity capital from members
- Responsible for
  - Payment of electricity at the transformer
  - maintenance costs
  - Grid extension

Entrepreneur

- BO –agreement (tender)
  - Building the system
  - Operation & management, for 5 years included in tender.
  - New contract after 5 years ?

Consumers (members)

- Member fee (20 USD)
- Connection fee (payed back over 3 years)



Source: Jean Paul Laude (2008)

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Cooperative with build and operate contract

Why Cooperatives ?

- Few private operators interested and capable of financing/owing the systems
- High level of donor financing (60/40) was not considered feasible for a private sector solution

Why Built and Operate ?

- Cooperatives have low organisational and technical capacity

Problems in Build and Operate

- Operator has limited incentives to increase revenue and to reduce costs
  - Fuel, maintenance
  - Including new consumers
- Low organisational and technical capacity of Coops means
  - Low level of influence
- Cooperatives take all risks, but have low capacity to act

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Towards more private responsibility From BO to BOO(T)

Advantages in BOO(T)

- Incentive structures are right, in order to reduce costs and increase income
  - connecting consumers
  - reduce costs (fuel, management)
- Cooperatives has lower risk or no risk

Considerations

- To be efficient it needs strong companies, which can afford to take risks
- Tendering is only fruitful if there is many operators
- Negotiated agreements needs a strong regulator to control the profit

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Cooperatives as owners of distribution systems

- Cooperatives were newly established as a condition for being included in the rural electrification scheme and had no tradition for being responsible for businesses
- Equity of cooperatives was low, about 1 %
- In spite of being the formal owners the cooperatives remained weak in comparison to all the other actors involved – the rural electrification agency, the consultants and the entrepreneurs
- Cooperatives were in general not able to take the necessary decisions and to negotiate with the operator, and their financial room of manoeuvre was limited after the first investment
- Cooperatives often didn't see any real interest in being independent of the donor funded rural electrification agency. Their strategy seemed rather to be dependent on FDE in case something went wrong

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Lessons learned

- Cooperatives need to have experience in business and in negotiation with service providers
- Cooperatives need provide a substantial amount of equity to feel responsible (10-20 %)
- Various institutions engaging in supporting cooperatives might not be able to make them act independently
- Economic and technical capacities of cooperatives are also needed when operation is transferred through a management contract
- BOOT contracts or concession to private enterprises seem to be a better solution if there is competition among potential entrepreneurs

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Lessons learned

- Creating a new structure for electrification outside the utility has some advantages in terms of new solutions, such as e.g. SWER, cooperatives and non-unified tarifs
- However, it takes time to build up a new private sector system - in parallel to the ulitity - consisting of:
  - Rural electrification fund
  - Consultants
  - Entrepreneurs
  - Cooperatives

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Thanks for your attention !

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